



UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

T.B.

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/193,928 11/17/98 ATSUMI

T M2009-9

EXAMINER

QM32/0828

MORRISON LAW FIRM
145 NORTH FIFTH AVENUE
MOUNT VERNON NY 10550

REPLACES

ART UNIT

PAPER NUMBER

3711

DATE MAILED:

08/28/01

19

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/193,928

Applicant(s)

ATSUMI ET AL.

Examiner

Stephen L. Blau

Art Unit

3711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2001.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18^{and 21 g} is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

Art Unit:

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng in view of JP 6-114131, Kusumoto and Jackson.

Cheng discloses a golf club shaft comprising sequentially a first angled layer formed by bonding a first layer (Ref. No. 22b) and a second layer (Ref. No. 22c), a first layer having reinforcing fibers oriented at a first angle and a second layer having reinforcing fibers oriented at a second opposite angle (Fig. 2, Ref. No. 22b, 22c, Col. 3, Lns. 1-12), a first straight layer formed on a first angled layer (Fig. 2, Ref. No. 22a), a second angled layer formed on a first straight layer, a second straight layer formed on a second angled in the form of there being 10-20 layers and fibers of each successive layer are 22a, 22b and 22c and as such there will be at least three sequences of the order of 22a, 22b and 22c and a second angled layer will be formed by bonding a first layer (Ref. No. 22b) and a second layer (Ref. No. 22c), a first layer having reinforcing fibers

Art Unit:

oriented at a first angle and a second layer having reinforcing fibers oriented at a second opposite angle (Col. 2, Ln. 64 through Col. 3, Ln. 12, Fig. 2), a shaft having a length along a longitudinal direction (Fig. 1), fiber-reinforced composite material (Col. 2, Lns. 64-67), and reinforcing fibers of a second angled layer being oriented at an angle relative to a longitudinal direction of a shaft (Col. 3, Lns. 4-6), organic fibers in the form of carbon (Col. 3, Lns. 61-67), and fibers of a second angled layer being 60-75 degrees relative to a longitudinal direction of a shaft (Col. 3, Lns. 4-6).

Cheng lacks layers arranged substantially concentrically, each layer extends over a length of a shaft, at least one of an angle and a thickness of a second angled layer providing a shaft with a torsional strength of at least 120 kgf x m x degrees, a weight of from 30-40 grams, a crush strength of at least 10kg/10 mm, and a second angled layer having a thickness in a range of from .04 to .1mm.

JP 6-114131 discloses each layer extends over a length of a shaft (Fig. 2, Translator), a shaft having a twisting strength of 230 kgf cm and a crushing strength of 22.8 kg (Table of page 4). As shown in JP 6-114131, an artisan skilled in the art of manufacturing a torsional resistant and strong shaft would have selected a suitable torsional strength and a suitable crush strength for a shaft in which a torsional strength of at least 120 kgf x m x degrees and a crush strength of at least 10kg/10 mm are included. In view of the patent of JP 6-114131 it would have been obvious to modify the shaft of Cheng to have a shaft with sufficient layers of fibers oriented at an angle with respect to longitudinal axis of a shaft such that there would be a torsional strength of at least 120 kgf x m x degrees in order to minimize errors when swinging a shaft due to the shaft having

Art Unit:

excessive twisting during the swing of a strong player causing errors at impact and a crush strength of at least 10kg/10 mm in order to prevent the shaft from crushing when a head impacts a ball or the ground during the swing. In view of the patent of JP 6-114131 it would have been obvious modify the shaft of Cheng to have each layer extending over the length of a shaft in order to provide strength and stiffness along the entire length of a shaft.

Kusumoto discloses a shaft made with fibers sheets having a thickness not larger than .06 mm (Col. 12 Lns. 12-27). In view of the patent of Kusumoto it would have been obvious to modify the shaft of JP 6-114131 to have a second angled layer having a thickness in a range of from .04 to .1 mm in order to provide a shaft with a sufficient amount of stiffness in the longitudinal and torsional directions.

Jackson discloses layers being arranged substantially concentrically about a central portion of a golf club shaft (Figs. 11-12), a shaft weight of 50 grams (Col. 2, Lns. 12-20) and smaller weight shafts (Col. 3, Lns. 17-25). An artisan skilled in the art of designing shafts to meet the strengths of a player would have selected a suitable weight for a shaft in which a weight of 30-40 grams is included. In view of the patent of Jackson it would have been obvious to modify the shaft of JP 6-114131 to have weight of 30-40 grams in order to have a light weight shaft and minimize fatigue felt by a player while playing a round of golf. In addition, it would have been obvious to modify the shaft of Cheng to have the layers arranged substantially concentrically about a central portion of a shaft in order to have more consistent performance about the circumference of a shaft.

Art Unit:

3. Claims 17 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng in view of JP 6-11413, Kusumoto and Jackson applied to claims 1-16 and 18 above, and further in view of Cecka.

Cheng discloses small diameter end, a large diameter end and a constant wall thickness which can be modified to meet the needs and desires of a specific golfer (Col. 3, Lns. 24-60). Cecka discloses a tapered shaft having a tip end wall thickness substantially twice the thickness of a butt end wall thickness (Figs. 8-9). In view of the patent of Cecka it would have been obvious to modify the shaft of Cheng to have each layer twice the thickness at the tip end compared to the butt end in order to have a strong tip end to prevent the tip end from fracturing.

Response to Arguments

4. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit:

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steve Blau whose telephone number is (703) 308-2712. The examiner is available Monday through Friday from 8 a.m. to 4:30 p.m.. If the examiner is unavailable you can contact his supervisor Jeanette Chapman whose telephone number is (703) 308-1310. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0858.

slb 24 August 2001

Stephen Blau
Stephen Blau
examiner
Art Unit 3711